

# TRANSLATION

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(54) [Title of Invention]

Novel Silk Fibroin Peptide, Production

Method for Silk Fibroin Peptide, and

Silk Fibroin-Containing Cosmetic Material

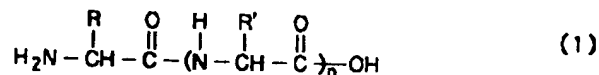
and Detergent Composition

(57) [Abstract]

[Objective] The objective is to provide a silk fibroin peptide which is superior in film formability, moisture retention, solubility and long term storage, and can be easily produced industrially at low cost.

[Constitution] A silk fibroin peptide represented by the following general formula (1)

[Chem 1]



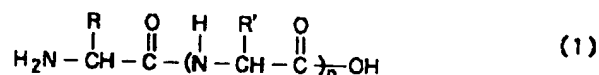
(wherein R and R' are side chains of various amino acids that constitute silk fibroin, and n is an integer of 0 ~ 20)

which is obtained by hydrolyzing silk fibroin in water at 150 ~ 250°C under high pressure.

[Claims]

[Claim 1] A silk fibroin peptide represented by the following general formula (1)

[Chem 1]

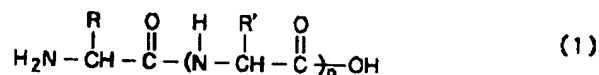


(wherein R and R' are side chains of various amino acids that constitute silk fibroin, and n is an integer of 0 ~ 20)

which is obtained by hydrolyzing silk fibroin in water at 150 ~ 250°C under high pressure.

[Claim 2] A production method for the silk fibroin peptide represented by the following general formula (1)

[Chem 2]



(wherein R and R' are side chains of various amino acids that constitute silk fibroin, and n is an integer of 0 ~ 20)

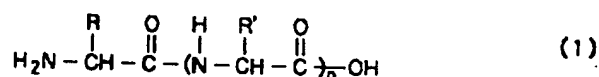
characterized by hydrolyzing silk fibroin in water at 150 ~ 250°C under high pressure.

[Claim 3] The production method for the silk fibroin peptide as described in Claim 2 characterized by carrying out hydrolysis in the presence of an acid of 0.1 N or lower.

[Claim 4] The production method for the silk fibroin peptide as described in Claim 2 characterized by carrying out hydrolysis in the presence of an alkali of 0.1 N or lower.

[Claim 5] A cosmetic material characterized by containing the silk fibroin peptide as represented by the following general formula (1)

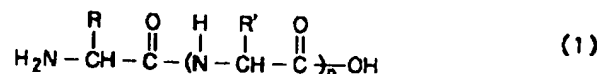
[Chem 3]



(wherein R and R' are side chains of various amino acids that constitute silk fibroin, and n is an integer of 0 ~ 20) which is obtained by hydrolyzing silk fibroin in water at 150 ~ 250°C under high pressure.

[Claim 6] A detergent composition characterized by containing the silk fibroin peptide as represented by the following general formula (1)

[Chem 4]



(wherein R and R' are side chains of various amino acids that constitute silk fibroin, and n is an integer of 0 ~ 20) which is obtained by hydrolyzing silk fibroin in water at 150 ~ 250°C under high pressure.

[Claim 7] A detergent composition characterized by the fact that, in Claim 6, at least one type of surfactant selected from anionic surfactants, ampholytic surfactants and nonionic surfactants, and the silk fibroin peptide represented by general formula (1) are contained.

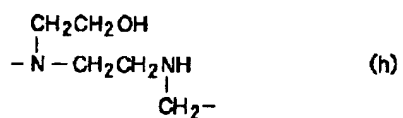
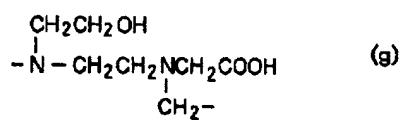
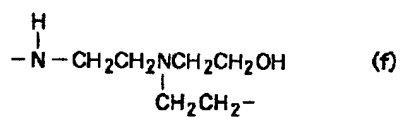
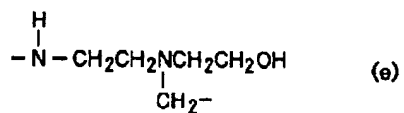
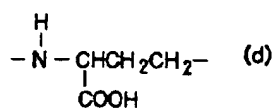
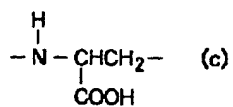
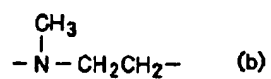
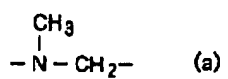
[Claim 8] A detergent composition in which, in Claim 6, the anionic surfactant is an amide carboxylic acid type surfactant represented by the following general formula (2).

[Chem 5]



(wherein R<sup>1</sup> represents an alkyl group or alkenyl group of C<sub>7</sub> ~ 19, M represents an alkali metal atom, alkali earth metal atom, ammonium group, cationic residue of basic amino acid or a cationic residue of alkanolamine, m represents an integer which is equal to the valency number of the atom or group represented by M, and R<sup>2</sup> is a member selected from the structural formulas of the following general formulas (a) ~ (h)

[Chem 6]



Translation: I&CT  
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